Notice of Allowability	Application No.	Applicant(s)	
	10/576,362	TANAKA ET AL.	
	Examiner	Art Unit	
	ELIZABETH ENG	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *2/25/2011*.

2. ☒ The allowed claim(s) is/are *1,2,4-7, 9, 10, 12-15*.

3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☒ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *4/22/2011* .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Elizabeth Eng/	/David Wu/ Supervisory Patent Examiner, Art Unit 1796

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Nicholas DiCeglie Jr. on 4/22/2011.

The application is amended as follows:

[Claim 1, lines 5 and 6]:

--and an anionic surfactant (d) in an amount of 1 to 10 parts by mass with respect to 100 parts by mass of (meth)acrylic acid— is amended to

–and an anionic surfactant (d), wherein the anionic surfactant (d) is in an amount of 1 to 10 parts by mass with respect to 100 parts by mass of the (meth)acrylic acid),--.

Claim 8 is canceled.

2. The following is an examiner's statement of reasons for allowance:

Claim 1 of the invention claims a production method of core-shell type highly liquid absorbent resin particles comprising:

(1) a first step in which a particle core portion is formed by suspension polymerizing an aqueous solution (e) containing (meth)acrylic acid, a crosslinking agent (c) and an anionic surfactant (d), wherein the anionic surfactant (d) is in an amount of 1 to 10 parts by mass with respect to 100 parts by mass of (meth)acrylic acid,

in a hydrophobic organic solvent (a) containing a nonionic surfactant (b), the anionic surfactant (d) being represented by the following general formula (I):

$$\mathbf{R'—SO_3M\ (I)}$$

wherein, R' represents an alkenyl group having 8 to 30 carbon atoms or a hydroxyalkyl group having 8 to 24 carbon atoms, and M represents an alkaline metal, quaternary ammonium or quaternary amine, and

(2) a second step in which a shell portion that covers the particle core portion is formed by suspension polymerizing an aqueous solution (g) containing a water-soluble vinyl polymer (f) having carboxyl groups and polymerizable unsaturated double bonds, and having a number average molecular weight of 500 to 10,000, in a suspension obtained in the first step.

3. The prior art of record anticipate nor render obvious the subject matter as acclaimed in the application:

- Yoshimura et al. (US Pat. No. 7,317,956 B2) discloses a method of producing a core-shell structure resin particles for a pressure sensitive adhesive that is easily swollen with water [abstract], comprising:

(1) Forming a shell, wherein the shell comprises a water-soluble [column 4, line 35] copolymer of an unsaturated carboxylic acid with a hydrophilic comonomer and is produced by polymerizing the monomers in an aqueous medium [column 4, lines 49-56]. The unsaturated carboxylic acid is preferably acrylic acid or methacrylic acid

[column 4, line 62], which contain carboxyl groups and polymerizable unsaturated double bonds.

(2) Forming a core, wherein the core is a monomer mixture comprising a radically polymerizable main monomer and a radically polymerizable functional monomer [column 6, lines 50-52]. The radically polymerizable monomers are alkyl ester of (meth)acrylic acid, cycloalkyl esters of (meth)acrylic acid, olefins, vinyl esters, and aromatic vinyl compounds [column 6, lines 60-63]. The radically polymerizable functional monomers are ethylenically unsaturated carboxylic acids, “crosslinkable monomers” having two or more radically polymerizable unsaturated bonds, and monomers having on its sides chains an alkoxysilyl group, an amide group etc. [column 7, lines 48-57]. The functional monomer is preferably an ethylenically unsaturated carboxylic acid [column 8, lines 25-26], such as acrylic acid and methacrylic acid [column 7, lines 580-59].

The polymerisation for the core formation may be carried out in an aqueous medium [column 9, lines 22-23] and adding other conventional components such as surfactants [column 9, line 25], including conventional anionic, cationic, or nonionic surfactants. The anionic surfactant includes sodium polyoxyethylene alkyl ether sulfonates [column 10, lines 7-9].

- Nawata et al. (US PGPUB 2003/0153887 A1) discloses in Example 1 [0107] a method of producing a water-absorbing resin [abstract] comprising first forming a neutralized aqueous solution of acrylic acid and then radically polymerizing the neutralized monomer solution with potassium persulfate. The monomer solution

is then added to a mixture comprising n-heptane and sorbitan monolaurate as a surfactant. Water is removed from the mixture and the polymer is surface crosslinked.

4. The above teachings fail to anticipate nor render obvious the following inventive concept of claim 1:

- An anionic surfactant having the general formula (I):

$$\mathbf{R'—SO_3M\ (I)}$$

wherein, R' represents an alkenyl group having 8 to 30 carbon atoms or a hydroxyalkyl group having 8 to 24 carbon atoms, and M represents an alkaline metal, quaternary ammonium or quaternary amine.

- The shell having a number average molecular weight of 500 to 10,000.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIZABETH ENG whose telephone number is (571)270-

7743. The examiner can normally be reached on Mondays through Fridays from 9:30 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached at (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is (571) 270-8743.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://portal.uspto.gov/external/portal. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Elizabeth Eng/

/David Wu/

Supervisory Patent Examiner, Art Unit 1796